WHAT IS CLAIMED IS:

CLAIM 1. A gas diffusion layer for fuel cell used for at least one of gas diffusion layers of a fuel cell where a fuel electrode side catalyst layer and an air electrode side catalyst layer are disposed at both faces of an electrolyte film, and further gas diffusion layers are disposed respectively on the outer surfaces of the fuel electrode side catalyst layer and air electrode side catalyst layer, characterized by that :

the gas diffusion layer is formed of a mesh sheet having an heat resistance and an acid resistance, and a mixture of electrically conductive powder and water repellent filler for filling voids of said mesh sheet.

CLAIM 2. The gas diffusion layer for fuel cell of claim 1, wherein a second gas diffusion layer is stacked on a face of said gas diffusion layer in contact with said catalyst layer, the second gas diffusion layer being formed of the mixture of electrically conductive powder and water repellent filler, and presenting a void rate smaller than that of said gas diffusion layer.

CLAIM 3. The gas diffusion layer for fuel cell of claim 2, wherein the content of water repellent filler contained in the second gas diffusion layer is higher than the content of water repellent filler contained in said gas diffusion layer.

CLAIM 4. The gas diffusion layer for fuel cell of any of claims 1 to 3, wherein the fiber forming said mesh sheet is coated beforehand with water repellent material.

CLAIM 5. The gas diffusion layer for fuel cell of any of claims 2 to 4, wherein the thickness of the second gas diffusion layer is smaller than that of said gas diffusion layer.

CLAIM 6. The gas diffusion layer for fuel cell of any of claims 2 to 5, wherein the electrically conductive powder used for said gas diffusion layer and the

second gas diffusion layer is carbon powder, and a specific surface area of the carbon powder used for said gas diffusion layer is smaller than the specific surface area of the carbon powder used for the second gas diffusion layer.

CLAIM 7. A manufacturing method of the gas diffusion layer for fuel cell of claim 1 or 2, comprising the steps of; making a gas diffusion layer (precursor) using the mixture of electrically conductive powder, water repellent filler and hole making agent powder, or stacking further the second gas diffusion layer (precursor) and, thereafter, decomposing and scattering the hole making agent by heat treatment to form a gas diffusion layer having there fine holes.